

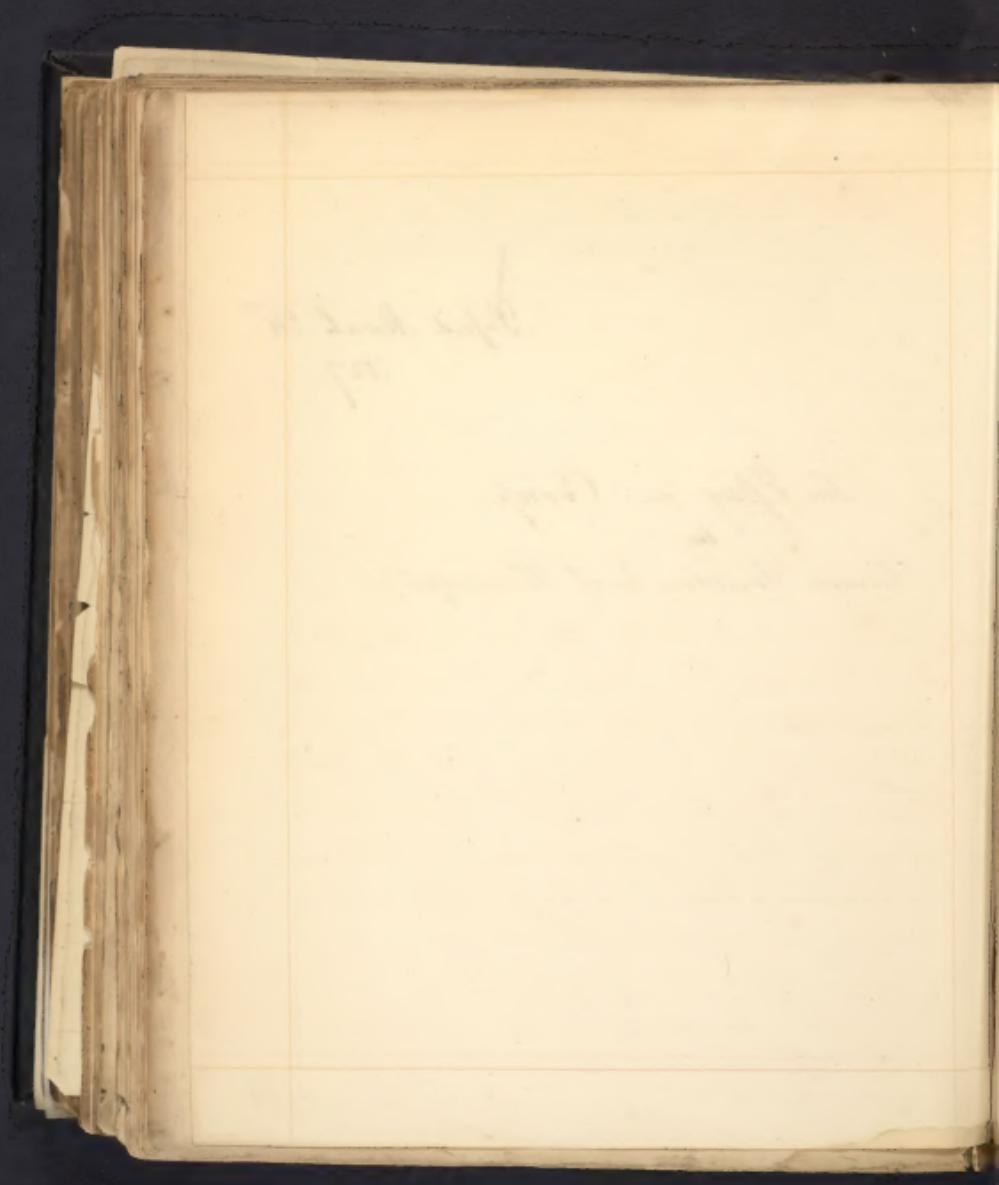
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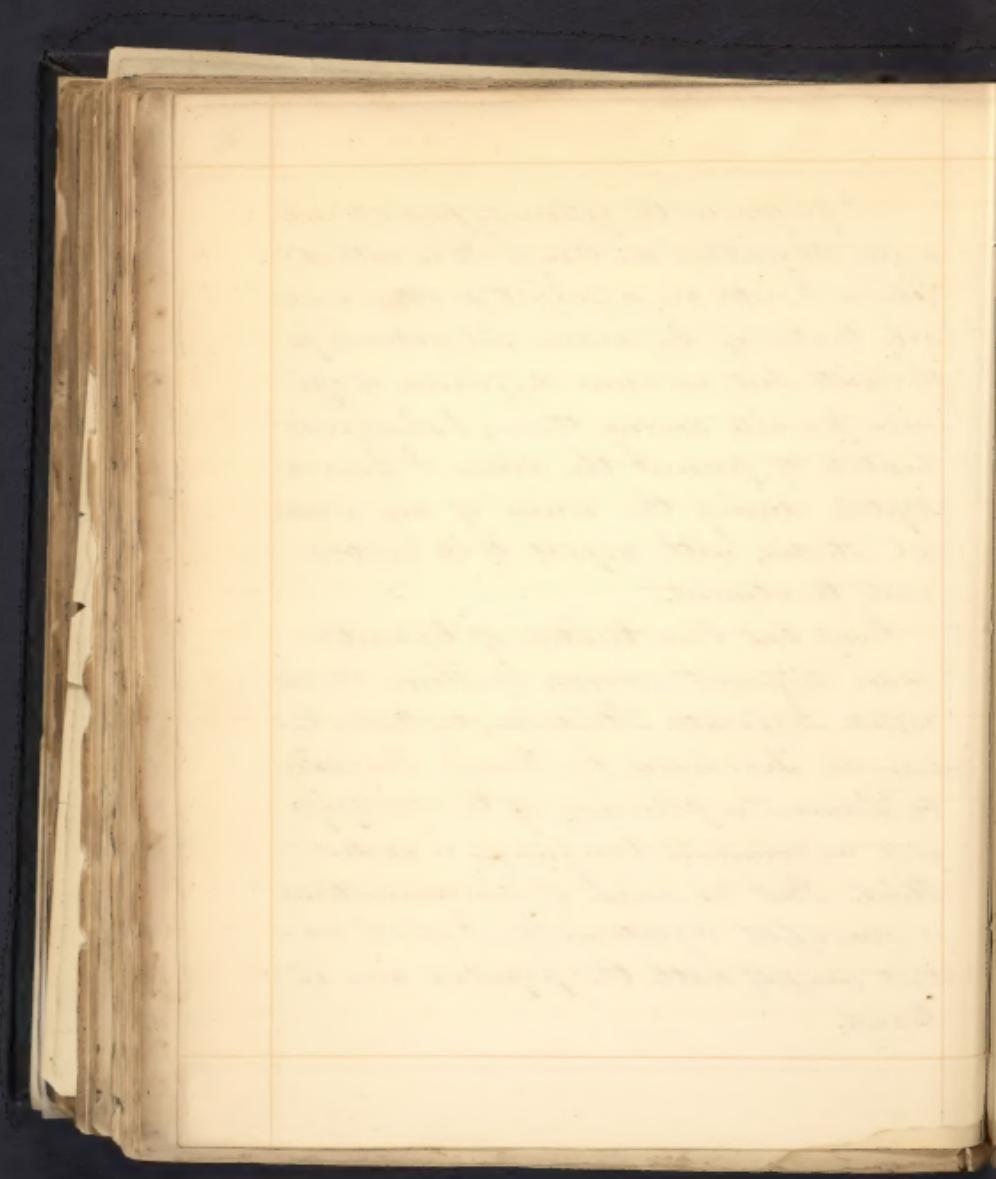
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An Essay on Croup
by
William Whipple Jr. of Philadelphia

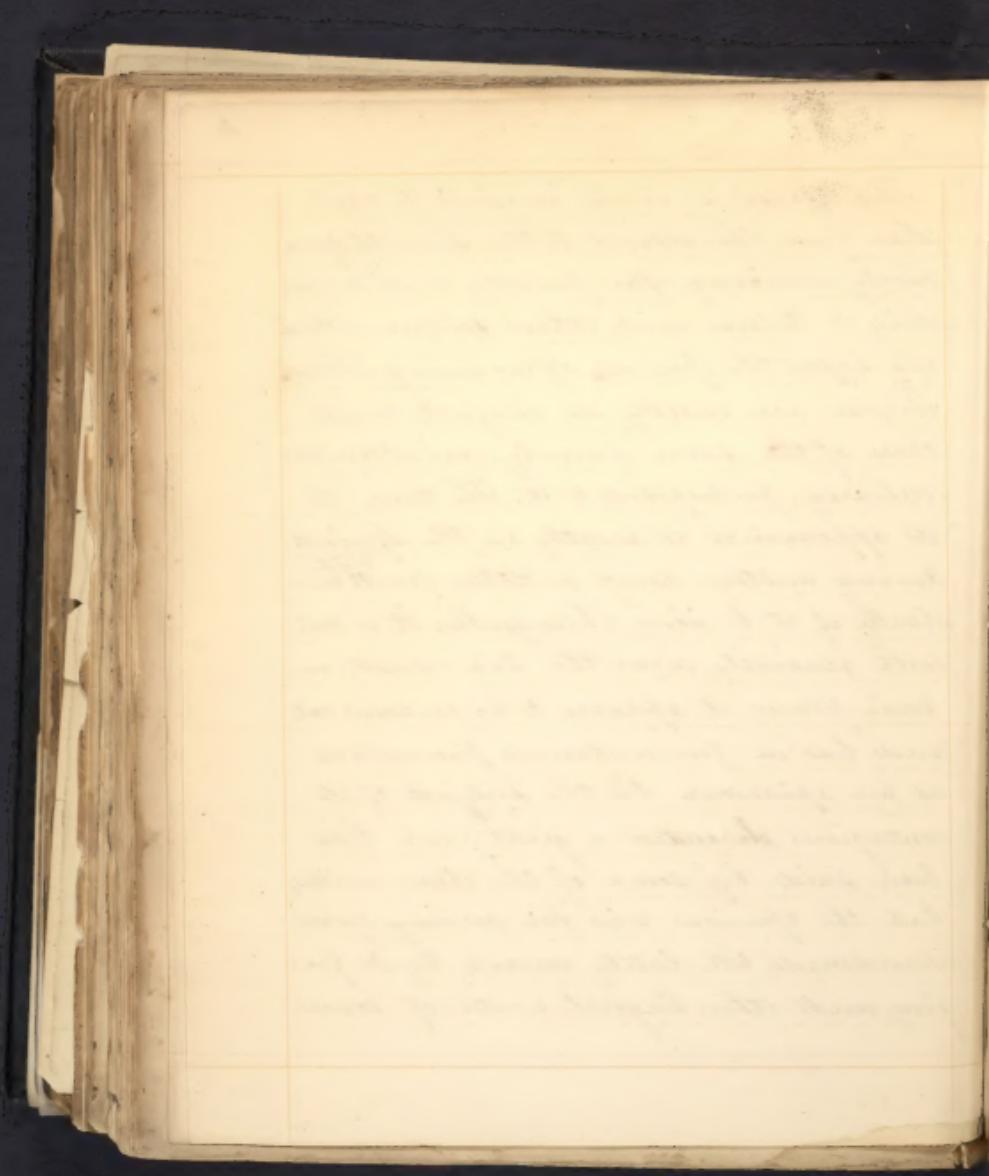


I purpose in the following pages to make a few observations on Croup. It is with diffidence I enter on a subject so often and ably treated of by many enlightened pathologists, but as some difference of opinion prevails among them, I shall not hesitate to present the views I have adopted, during the course of my medical studies, with respect to its nature and treatment.

Croup has been treated of by writers under different names; by Horne it was called Suffocatio Stridula, by Cullen Cymanche Trachealis, by Frank Tracheitis by Dauvin, a plenisy of the Windpipe and in common language is called Hives. But as each of denominations is somewhat objectionable, I shall content myself with the popular one of Croup.

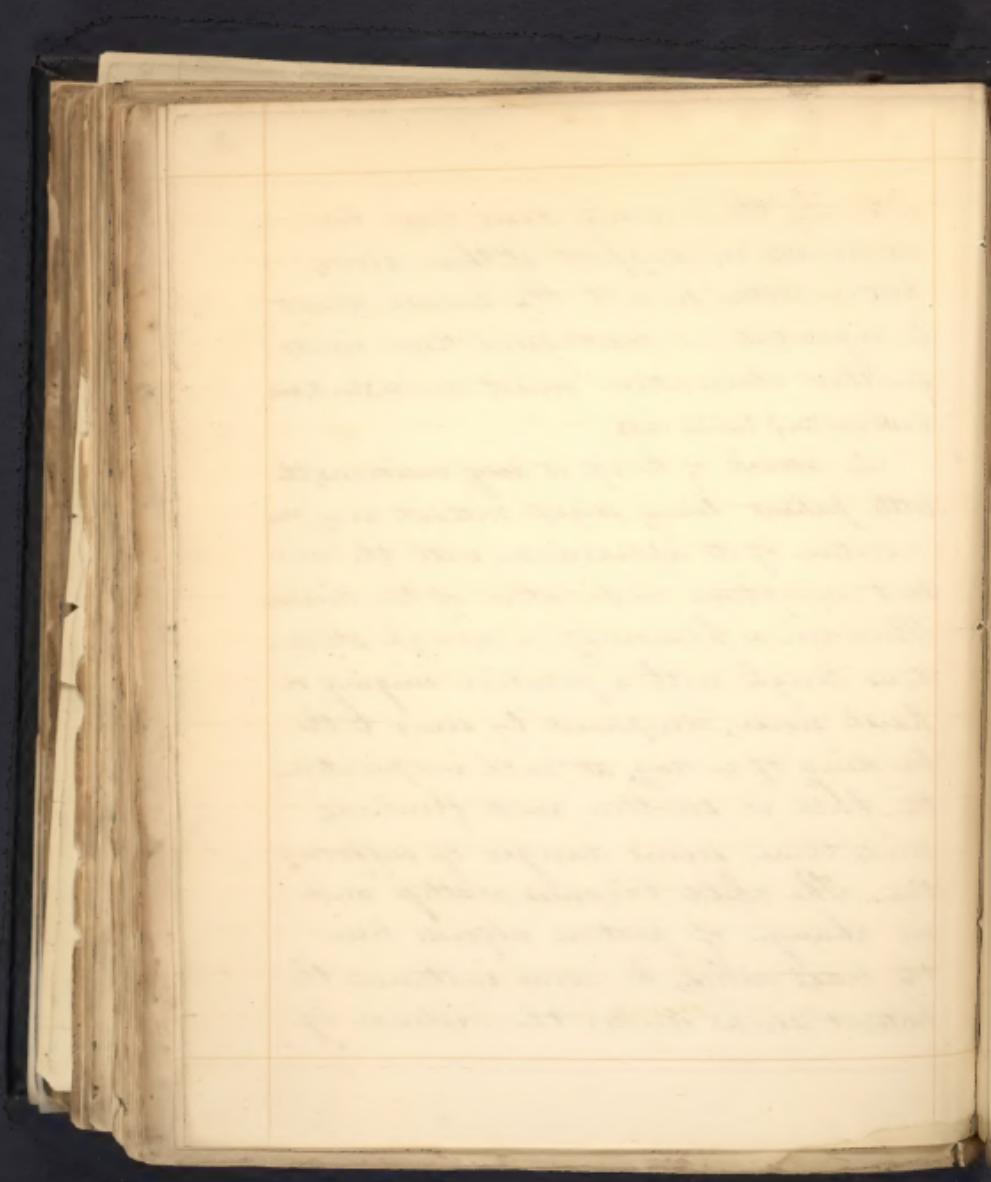


This disease is nearly confined to children from the second to the seventh year, rarely occurring after puberty and according to Cullen and others seldom attacking before the period of weaning. Robust children are mostly its subjects and those of the same family are often peculiarly predisposed to it. The time of its appearance is mostly in the spring during austere damp weather, particularly if it be very changeable. It is met with generally near the sea coast, in some places it appears to be endemic, and has in few instances prevailed as an epidemic. On the subject of its contagious character a great deal has been said by some of the older writers, but the opinion was for many years abandoned, till lately revived by Dr. Gregory and other English writers of some



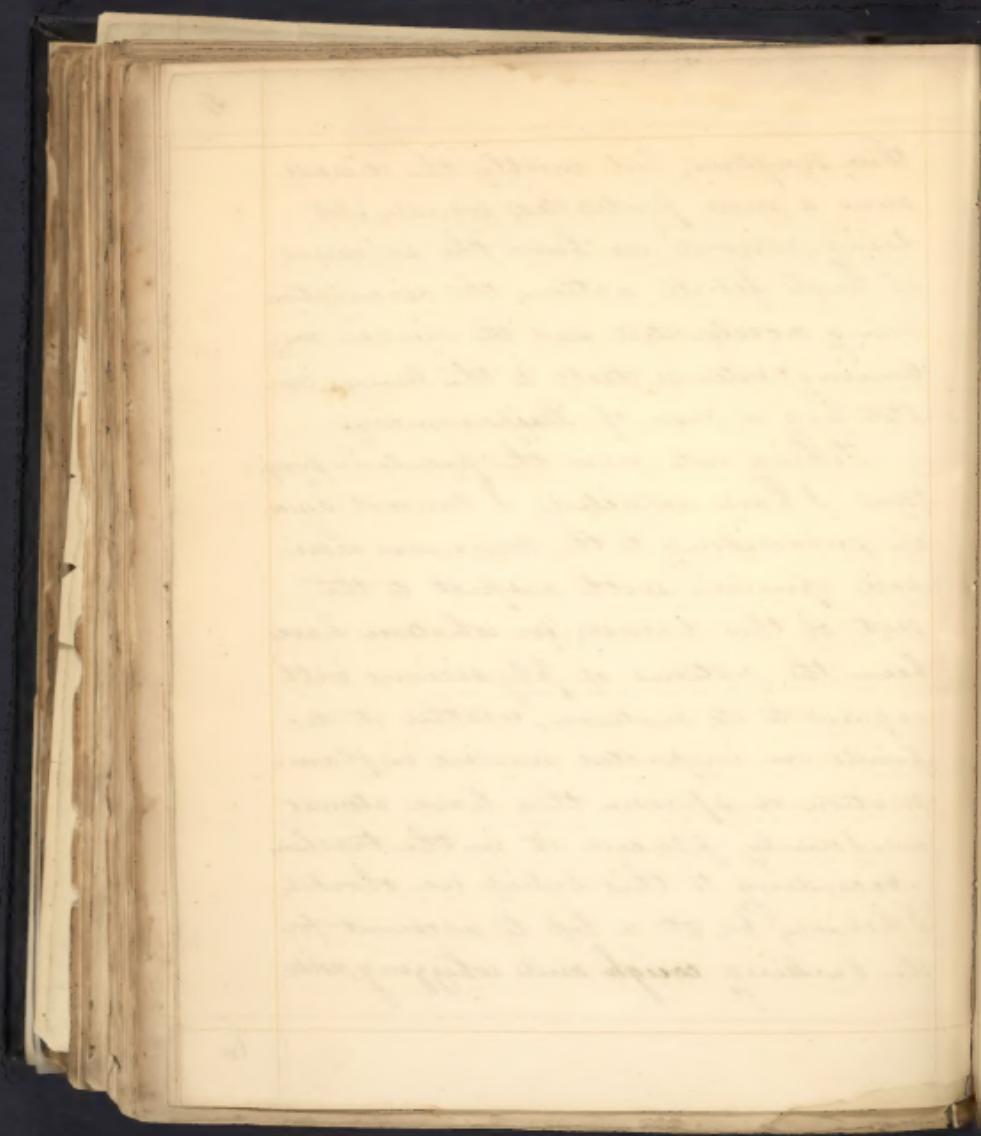
note. By them many cases have been advanced in support of their views, but whether or not the disease must be regarded as contagious, time and further observations must decide. (See N. Amer. Med. and Surg. Journal &c.)

An attack of Croup is very insidious, the little patient being seized without any premonition of its appearance with the violent symptoms indicative of the disease. These are a hoarseness, a rough stridulous cough with a peculiar ringing or harsh noise, compared by some to the barking of a dog, at each inspiration the face is swollen and flushed, and there seems danger of suffocation. The child becomes restless and no change of posture affords him the least relief, in some instances the patient sinks under the violence of

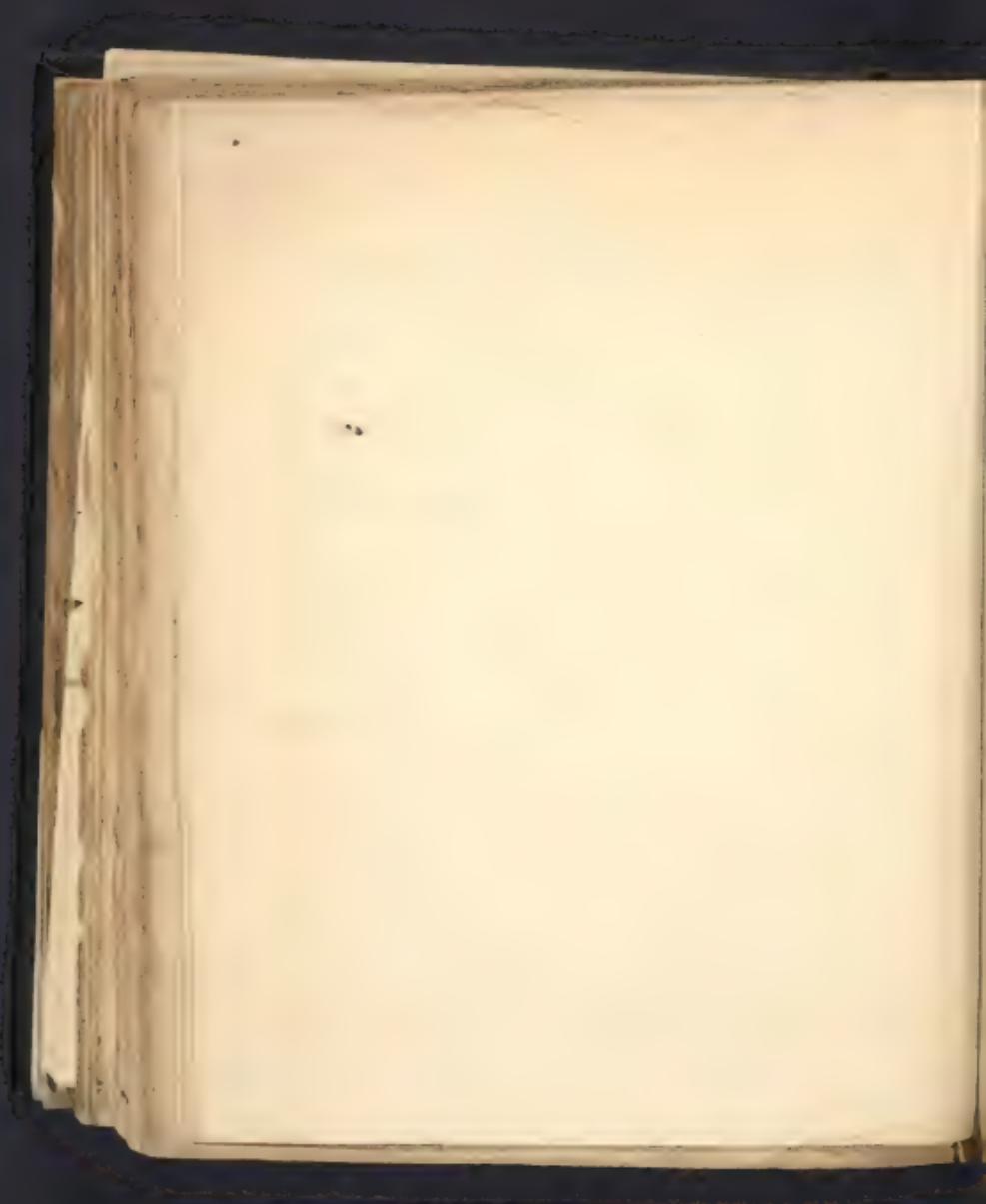


these symptoms, but mostly the disease runs a more protracted course. Not being relieved we have the evidence of high febrile action, the circulation being accelerated and the disease continuing extends itself to the lungs constituting a case of *Peripneumony*.

Taking into view the peculiar symptoms, I have detailed, I cannot agree in subscribing to the common received opinion with respect to the seat of this disease, for whatever have been the notions of physicians with regard to its nature, whether it depends on impacted mucus, inflammation or spasm they have almost uniformly placed it in the trachea. According to this belief we should, I believe, be at a loss to account for the barking cough and whizzing noise

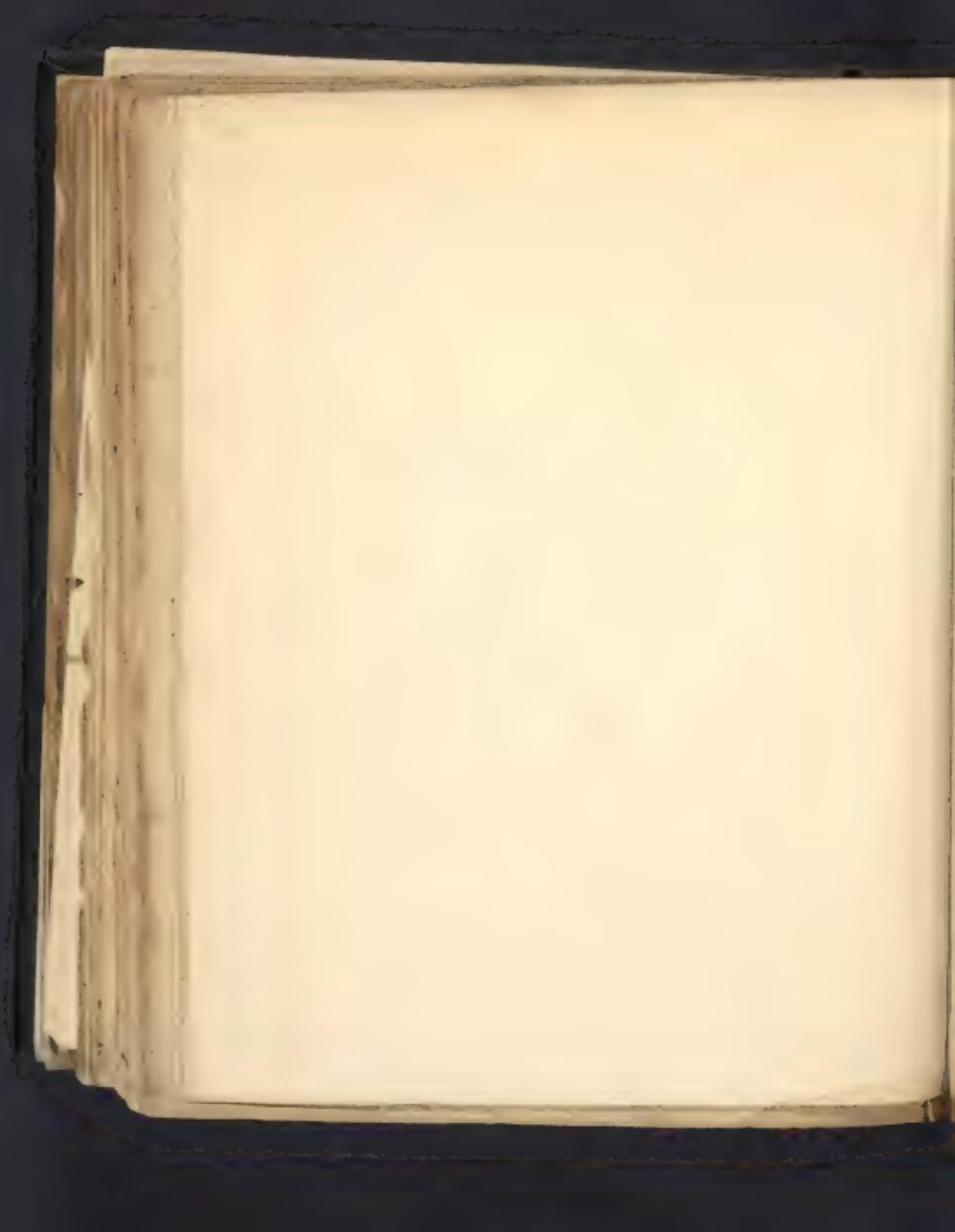


of respiration which accompanies this disease. Did it depend on any affection of the trachea either thickening of its lining membrane or spasmodic action of its muscular fibres, these characteristic symptoms of the disease would not I think be produced; for we find the trachea to be a plain circular tube and though its calibre were diminished to one half or even one third of its usual size, we ought not to expect to hear more than a slight wheezing owing to the rapidity with which the air would have to pass in order to supply the lungs. As to the lungs alone then we are to look for those striking phenomena of this disease. Whether we consider it as a wind or strangled instrument, still all will admit that it is the proper organ of



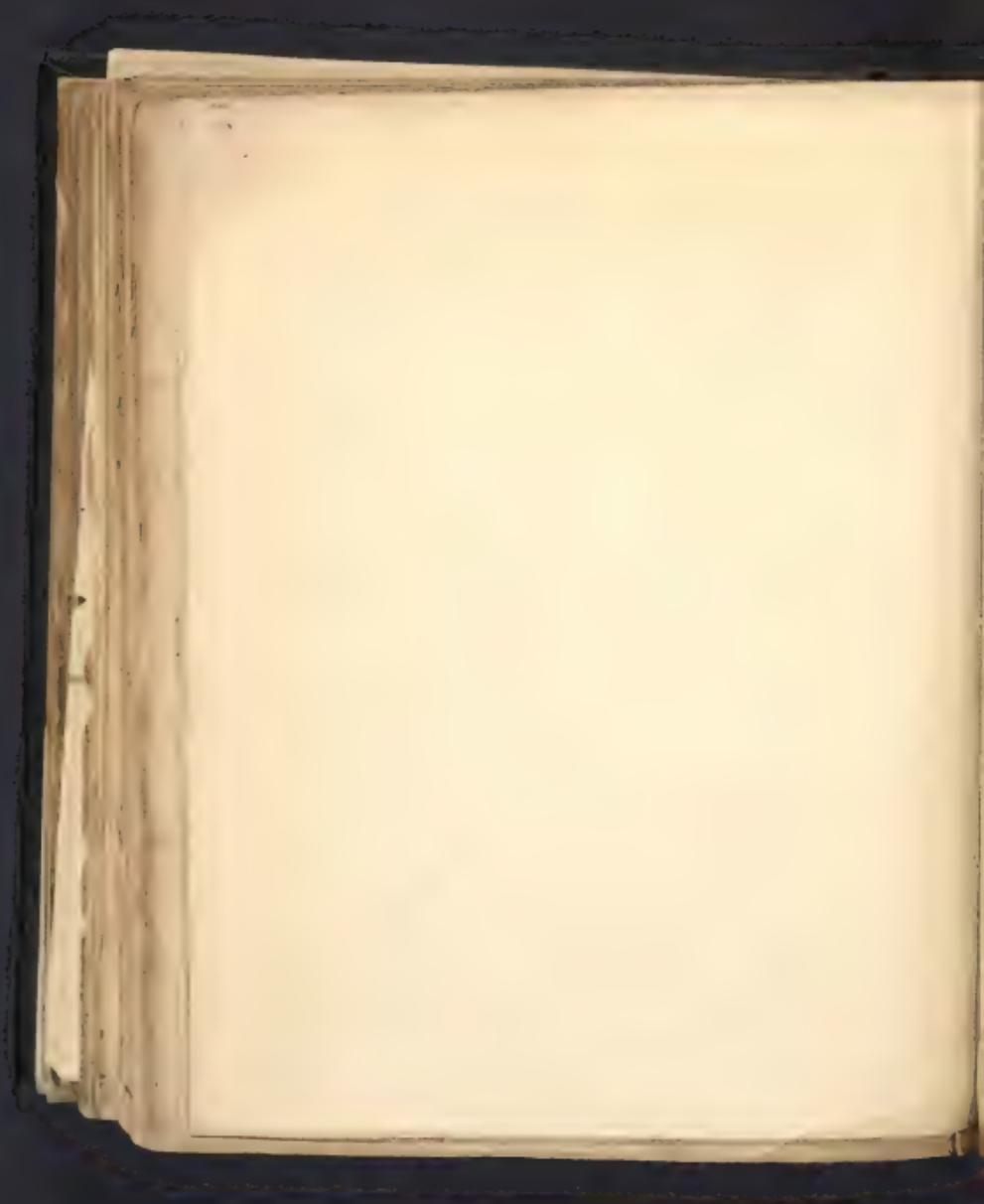
the voice or in other words that the modulations, which the sound presents as the air passes from the lungs, depend on the vibrations communicated by it to the phreno-austenoid ligaments. Though air be forced with the greatest possible rapidity, still we could not in any way produce those modulations without some vibratory motion being imparted to it. In placing the seal of Bough in the Paroxysm I do not deny that the Throats and Bronchiae often and indeed in most cases are affected, but I am persuaded that without the Larynx being involved in barking voice will be heard.

Taking all these circumstances into consideration, I think we



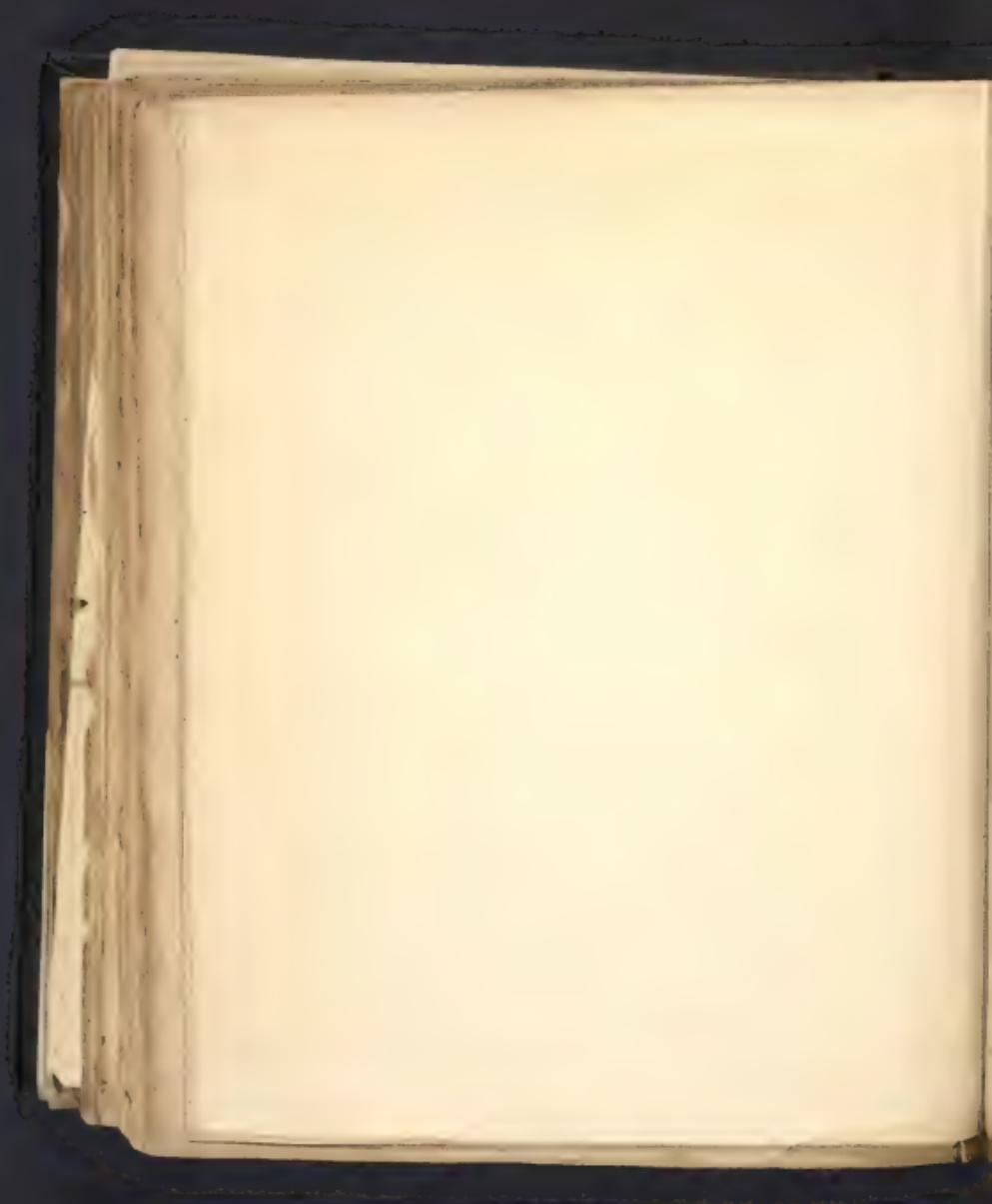
would be justified in concluding
that the true seat of Croup is in
the Larynx, and hence that the
names of Esophagea Fracturata which
it received from Cullen and of Par-
oxysm from Frank were founded on
erroneous ideas of the subject.

Now is the time I have adopted
respecting the seat of Croup founded
solely on reasoning and the
received opinions respecting the
physiology of the voice; for, by a
reference to the writings of Blaauw
and Gomarus, it will be found
to be sustained by a very large
series of post mortem examina-
tions conducted with the greatest
care and a fidelity paying
more to the Pathology of the disease
it will only be necessary to remark



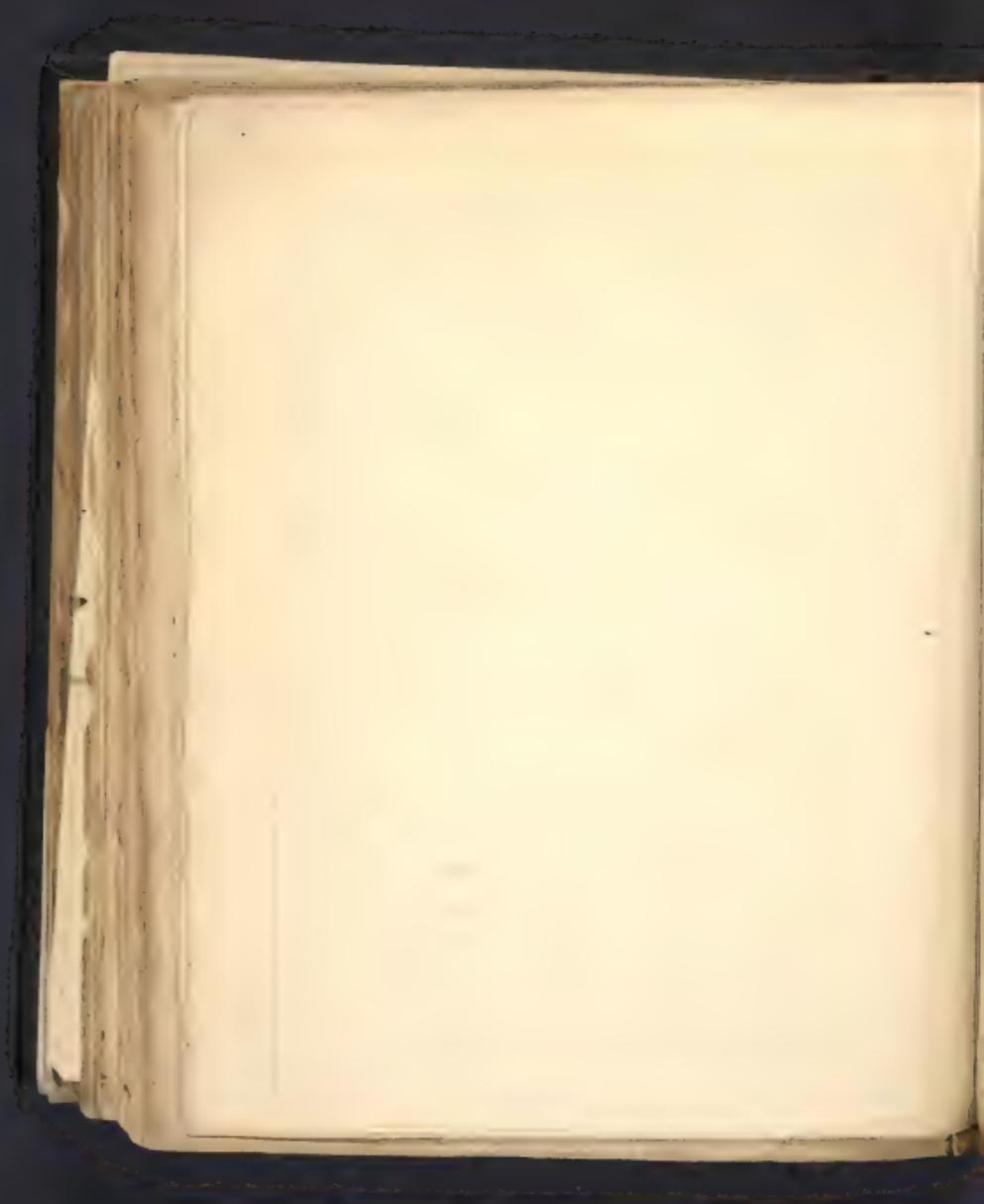
that by an attentive consideration of all I have seen and read on the subject, I am led to the belief that Croup depends in all instances on an irritation of the lining membrane of the Farynx amounting after a longer or shorter time, if not arrested, to inflammation and occasionally giving rise to spasmodic contractions of its muscles.

That this is a correct view of the nature of the case may be inferred from an analysis of all the symptoms, as well as from the analogy existing between this and other diseases of irritation. That inflammation does not exist in all cases we have the proof in the suddenness of the attack and



of the voice afforded by a few muscles of no great power and which will be mentioned hereafter and that spasms of the laryngeal muscles is not alone to be regarded as the cause of the symptoms, any one will be convinced who reflects that except through the agency of the will these muscles like all those covering other parts of the same membrane are seldom brought into action, except from the irritation of the mucous surface beneath them.

For all our present purposes though may be divided into two species, the first consisting of all those cases in which the disease depends on irritations of the lining membrane, and the second of



those in which inflammation has supervened. Thus the cases which are suddenly produced appear to consist in simple irritation of the mucous lining of the larynx, extending to and producing spasm of its muscles. This has at times been so violent as to close the mucous glottides and destroy the patient by suffocation: But this is not common and we find after a short time inflammation of the lining membrane taking place, constituting the second species of the disease, accompanied by a secretion of mucus, pus or coagulable lymph, according to the intensity of the inflammation and temperament of the patient. From the last of these pro-
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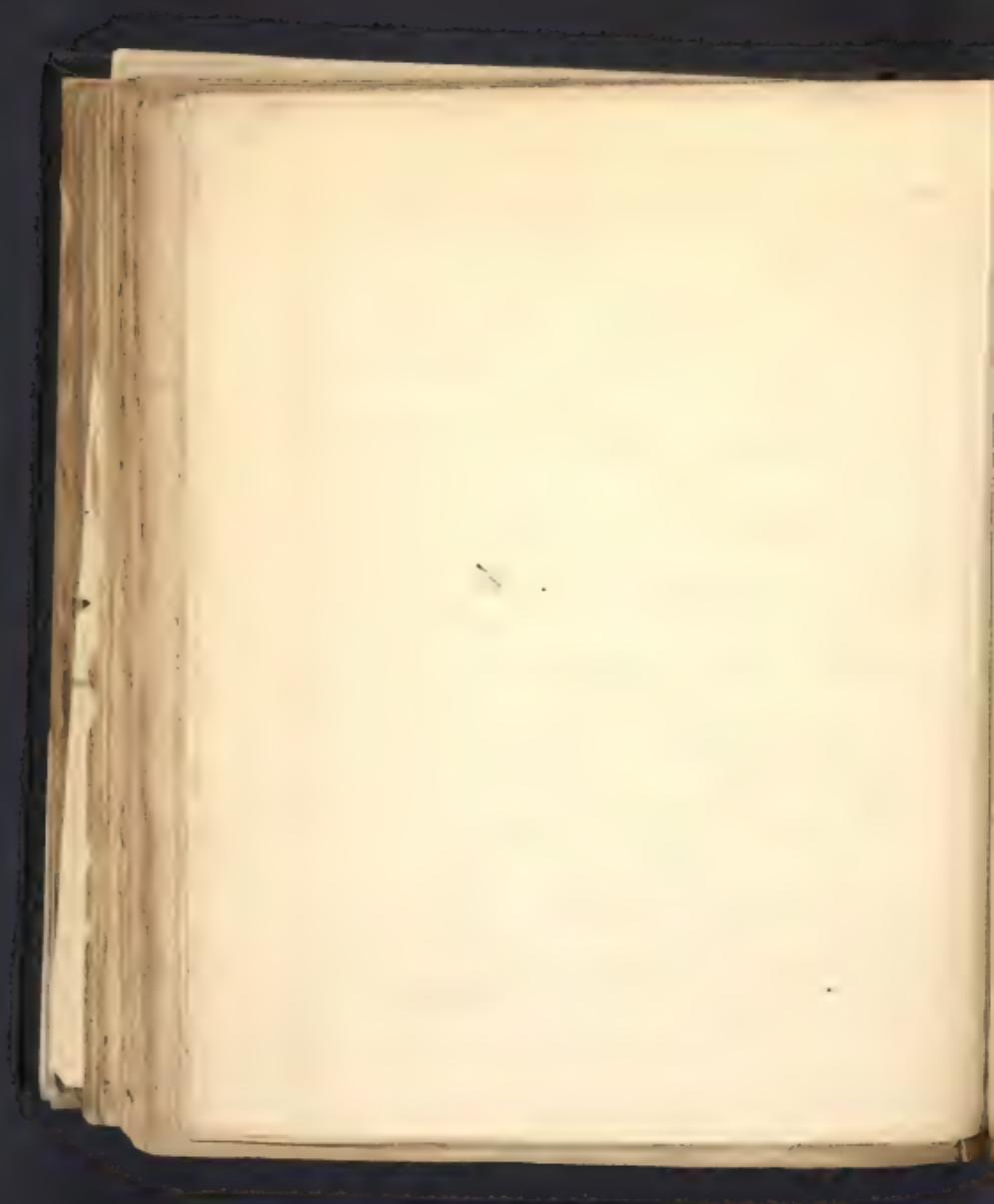
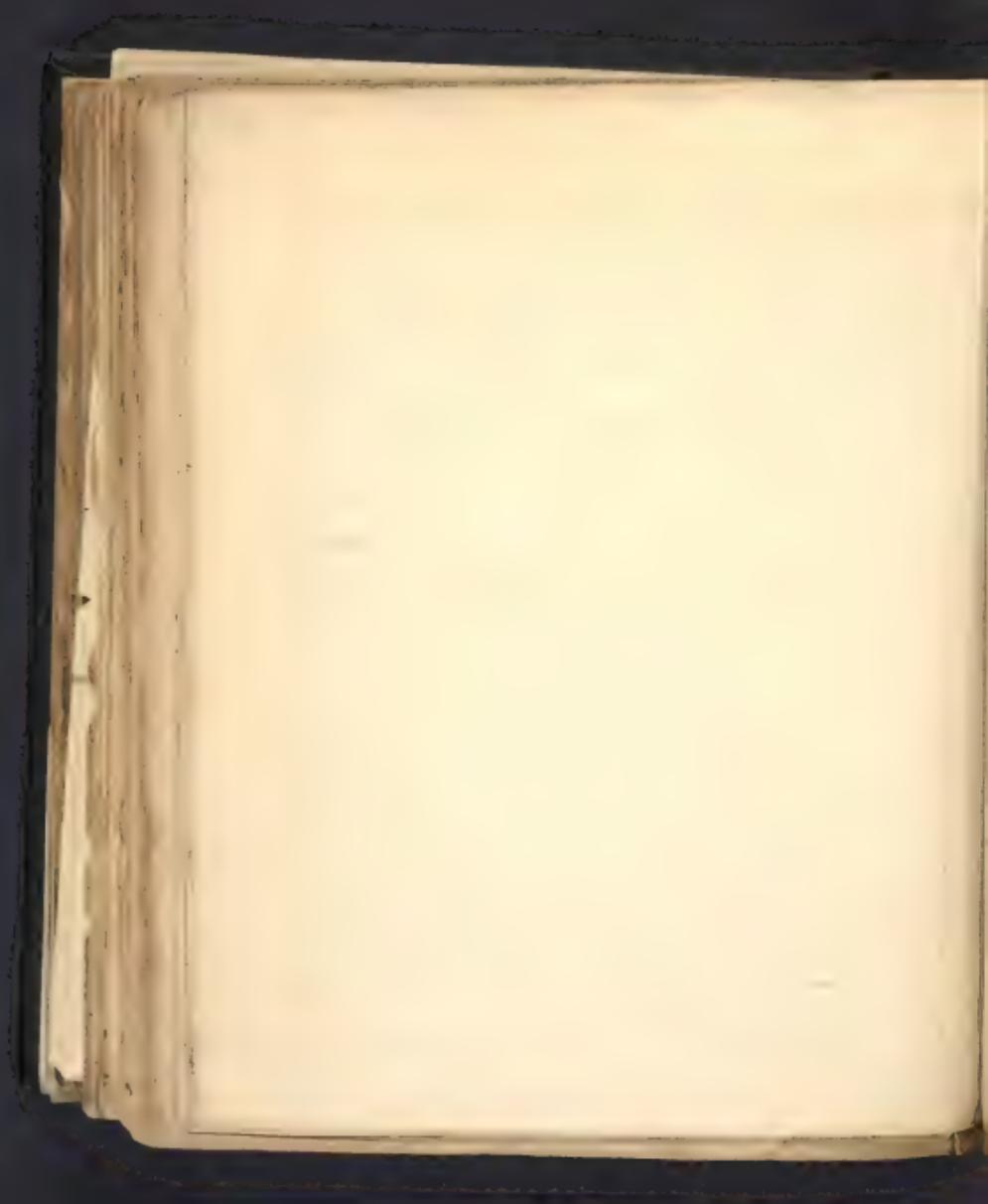


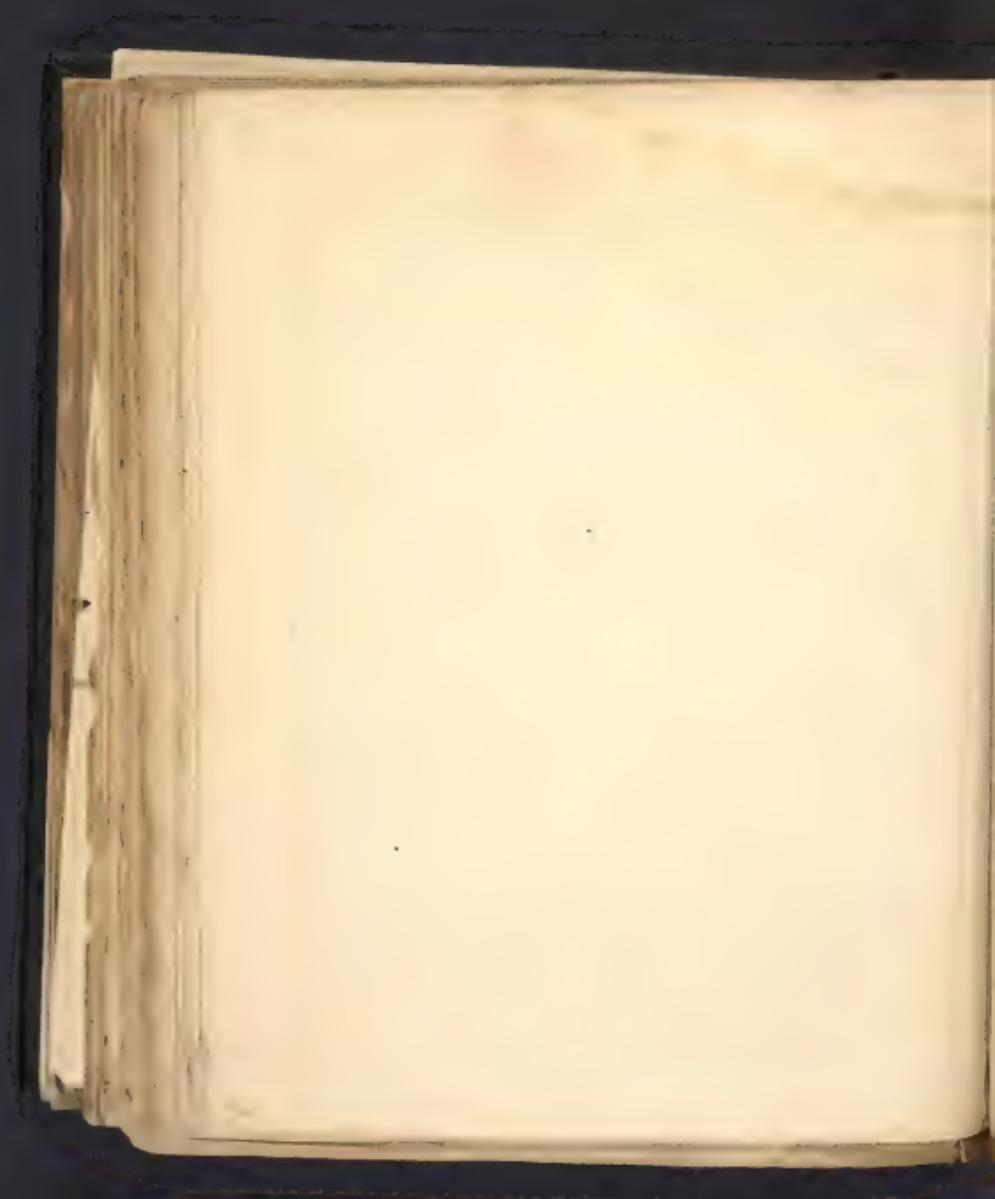
table lymphatic an adventitious membrane is formed, lining the whole internal surface of the organs and extending together with the inflame motion along the internal surface of the Trachea and sometimes involving the lungs.

The barking noise which accompanies and indeed characterizes Croup and the difficulty of breathing may I think in many instances be attributed to spasm of the laryngeal muscles, but the same symptoms are often produced by a thickening of the mucous membrane from inflammation and pendant to spurs, and also from the presence of the adventitious membrane. The appearance on diffec-
tion go to confirm this view of the



nature of Croup. In cases which have terminated suddenly no morbid appearances are discovered. But when it has continued for a few days or even less the usual signs of cellular action are met with in the Larynx and gullet in the trachea. There is also found in the Larynx and Trachea a quantity of thick, matter resembling mucus and when the disease has been violent an adenitious membrane, as has been before observed.

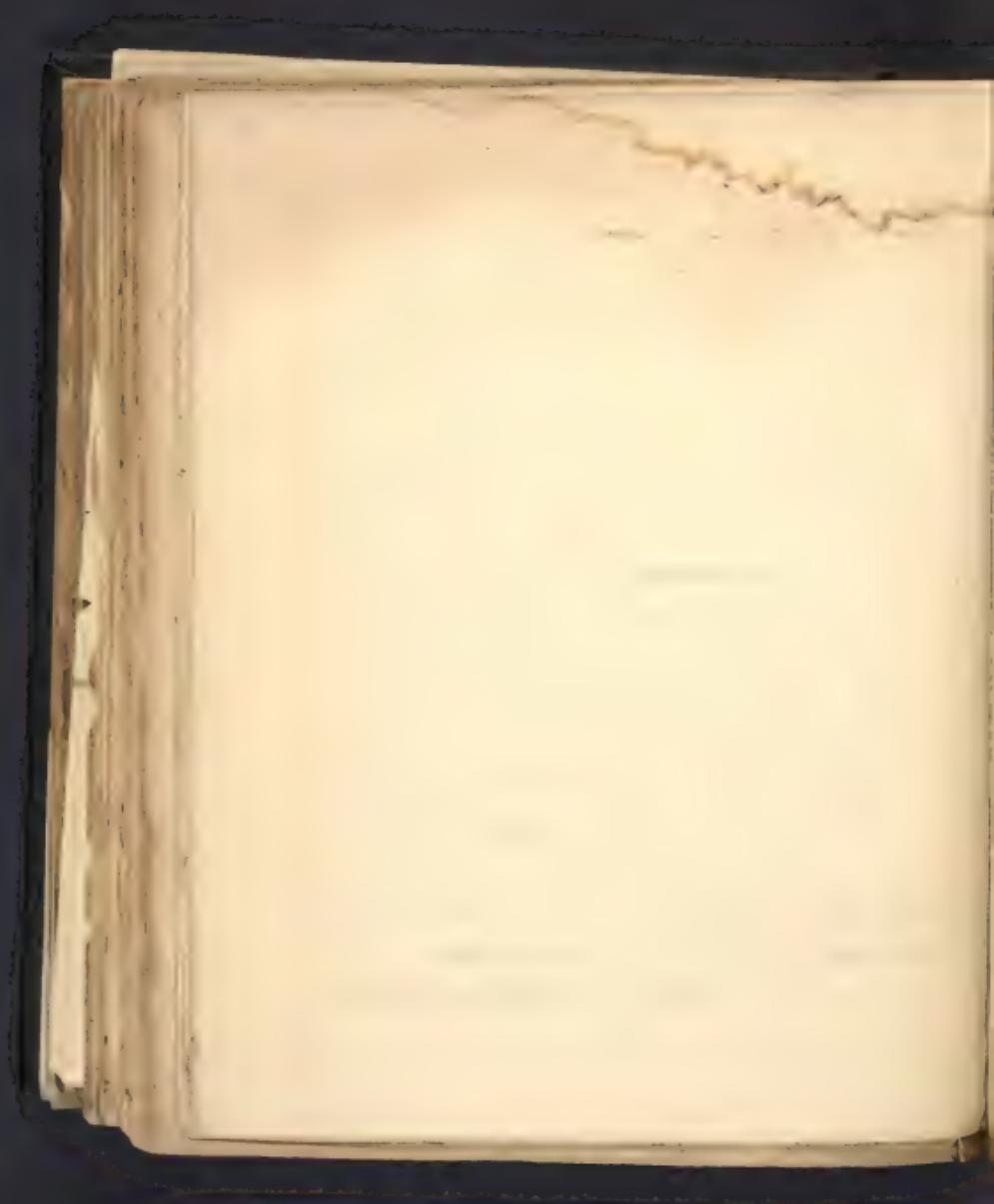
The causes of Croup are those of the whooping-cough generally, particularly cold and damp air. Dr. Lowes, in his chapter on Croup, published 1811, says that exposure to the weather is not necessary to its production, for he observes, "we have often intrepid attacks of the disease from the mere



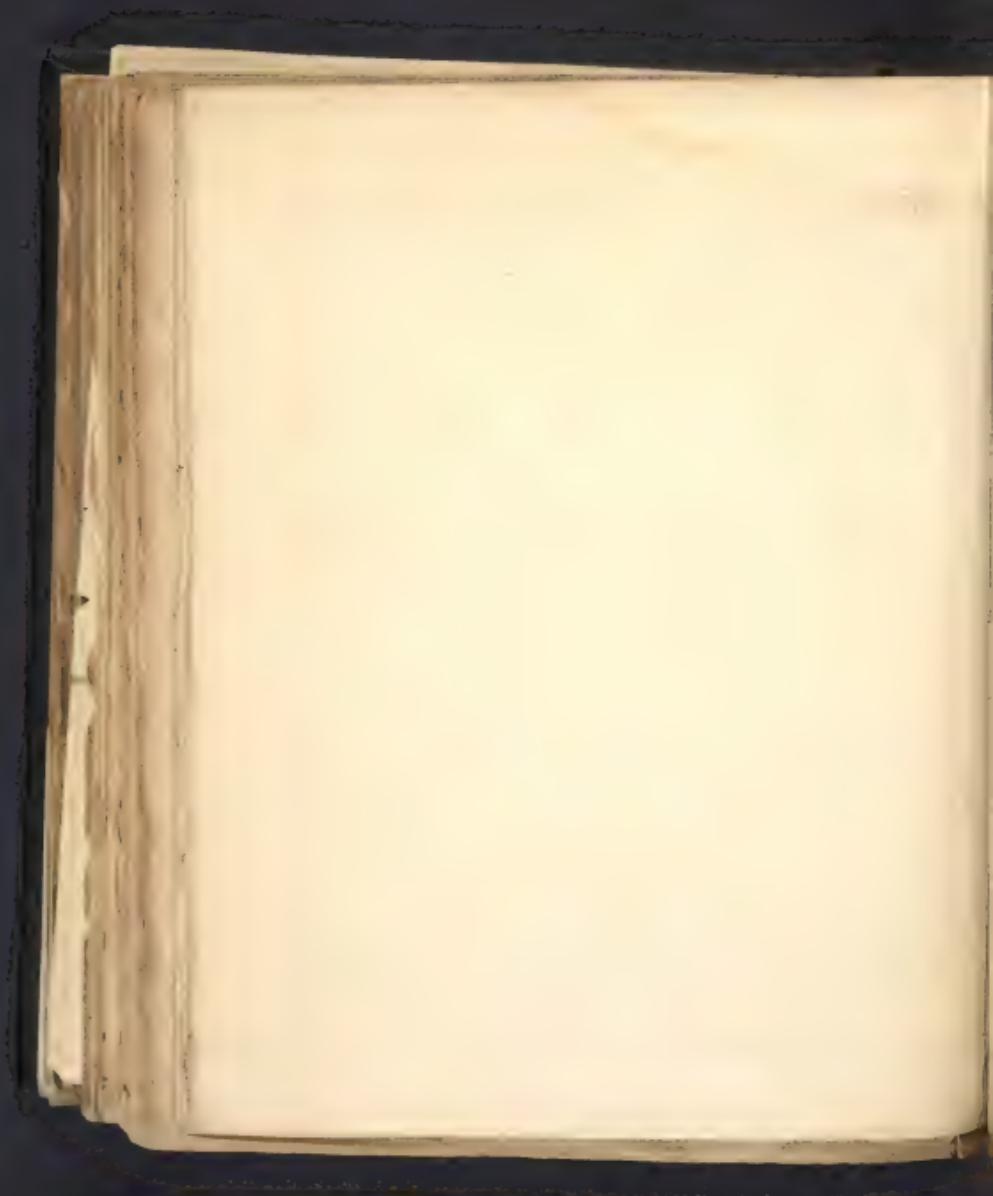
prevalence of a North-East wind, and
when in consequence of this wind
every precaution has been taken to
guard against its influence by con-
fining the child and heating it
warmly.

A stomach loaded with acid
digesta is said by Dr. Chapman
to be a very fruitful source of
the disease, and here I might remark,
no one can assign a reason why Croup is sel-
dom met with previous to weaning, the
child being nourished by the bland
substance provided for its support with-
out any irritation of its tender stomach.

Catarrh, as is acknowledged by almost
every writer, is sometimes complicated
with this disease. Nor is the circum-
stances difficult of explanation, for
the inflammation which constitutes



color; it may readily be understood to extend into the Paroxysms and give rise to the symptoms characteristic of Croup. The disease also occasionally accompanies the Smarting, ciliales, Paroxysms, Aphtous sore throat and in some instances is accompanied by unequivocal signs of Carbuncles. In all these, except the last, the Thymus becomes inflamed, the inflammation extending to the Paroxysms. In all these cases however we only observe complications so commonly found in all diseases and they cannot in the least incline us to the supposition that the nature of Croup is different in such instances from what it is when simple and uncomplicated owing to Croup accompanying them



diseases it was formerly divided into
Etiopathic and Symptomatic,
but as all these causes tend to
the same end, namely, irritation
of the lining membrane of the
airways, and as we cannot under
any pretence suppose that Croup
can be a symptom of any other
disease, but must in all instances
be a disease of itself, sometimes
existing alone, at other times com-
plicated with other affections, but
in all cases marked by its own pec-
uliar symptoms, and demanding
its proper treatment we are led to
the conclusion that the distinction
is neither pathological nor correct
nor practically important.

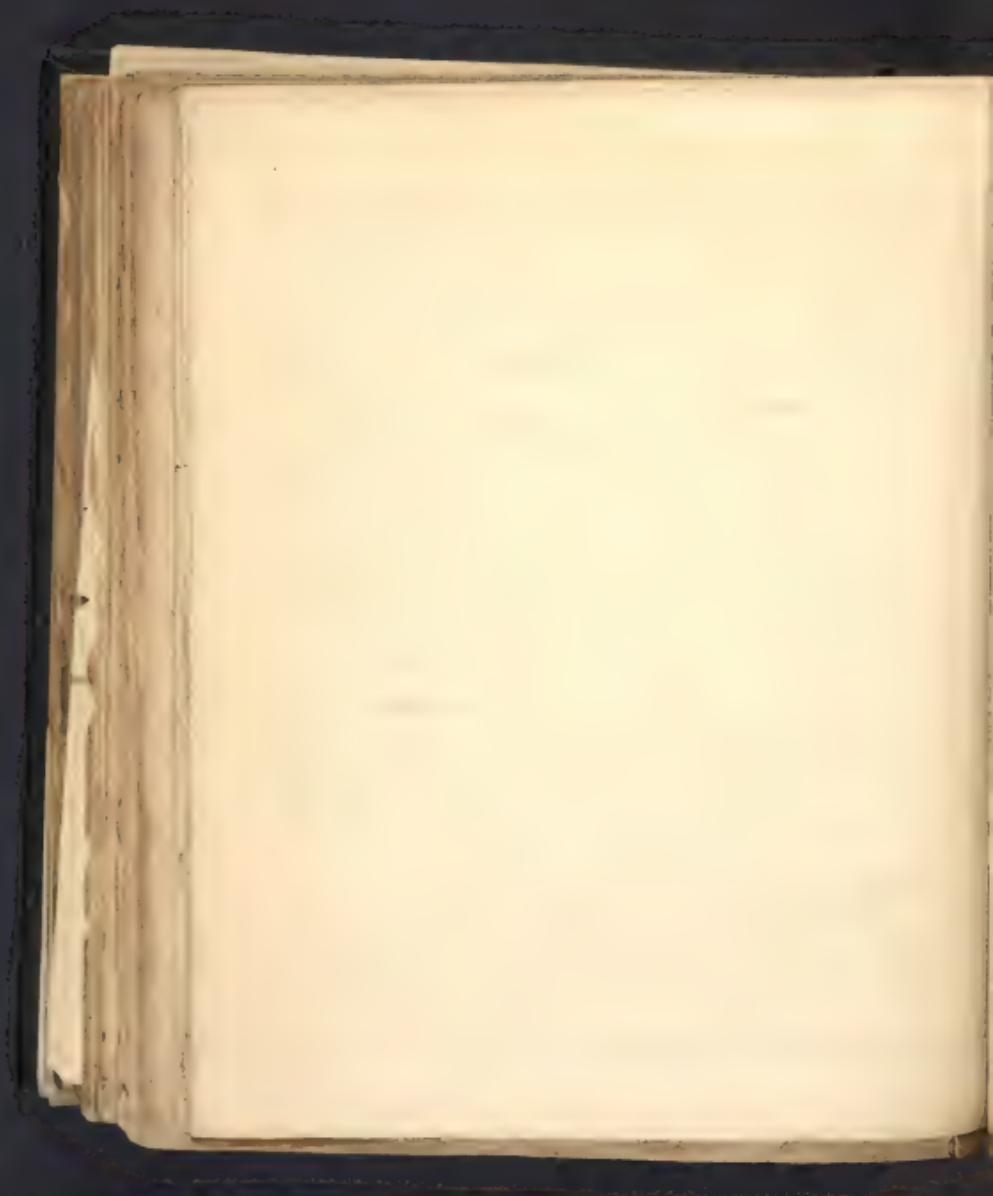
Whatever may be the difference of
opinion with respect to the pathology



of French physicians pretty nearly agree in the most important point namely its treatment.

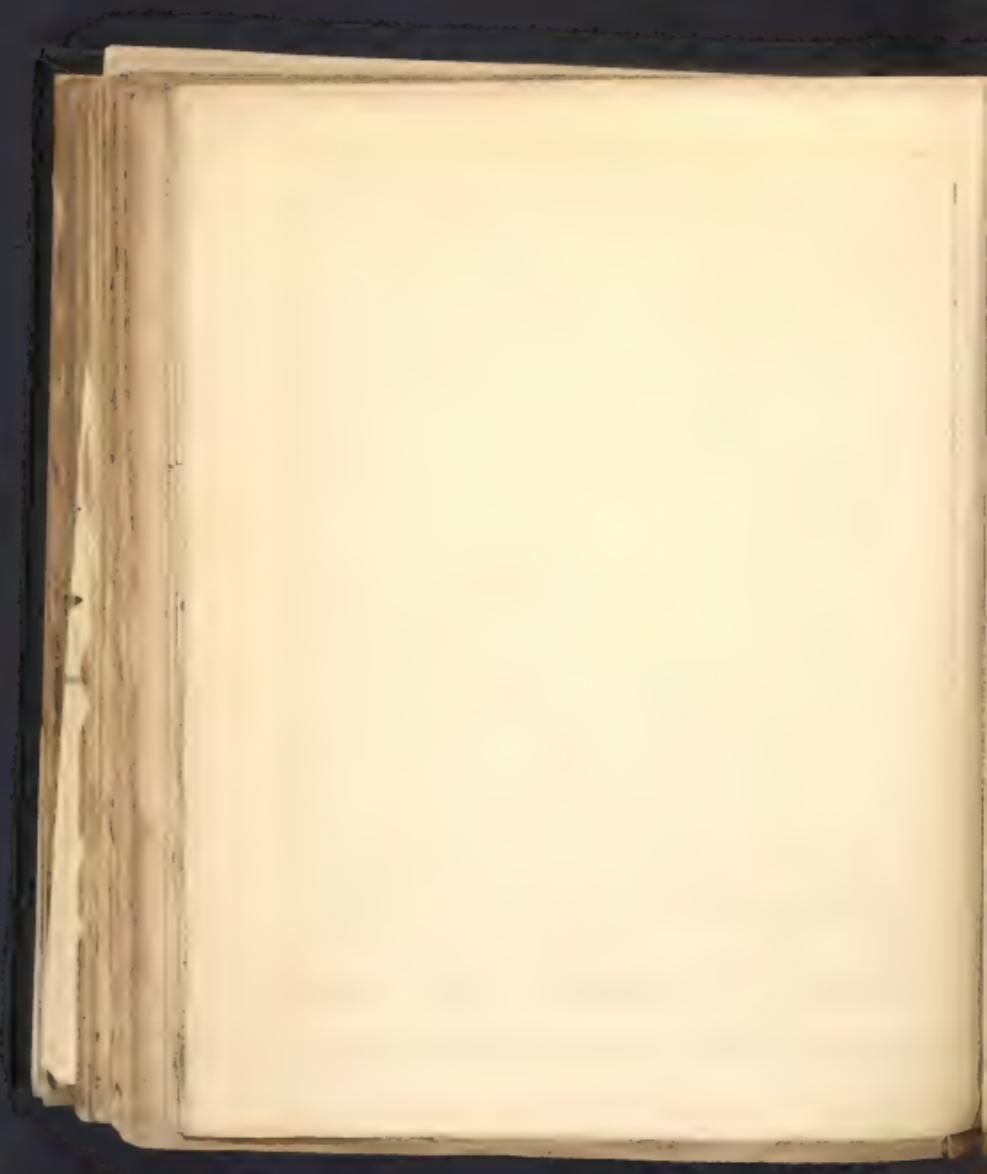
Called to a house in the commencement an emetic will sometimes check its progress. In those cases which arise from indigestion, they are useful in getting rid of offensive matters and in all cases they tend to restore an equable circulation. It is well known that impressions made on the stomach are felt by the whole system and the flow of blood and vital action are diverted from the seat of the disease to the organs acted on and secondarily to the skin.

Contributing to the same end the warm bath may, if necessary be employed. In relaxing spasms



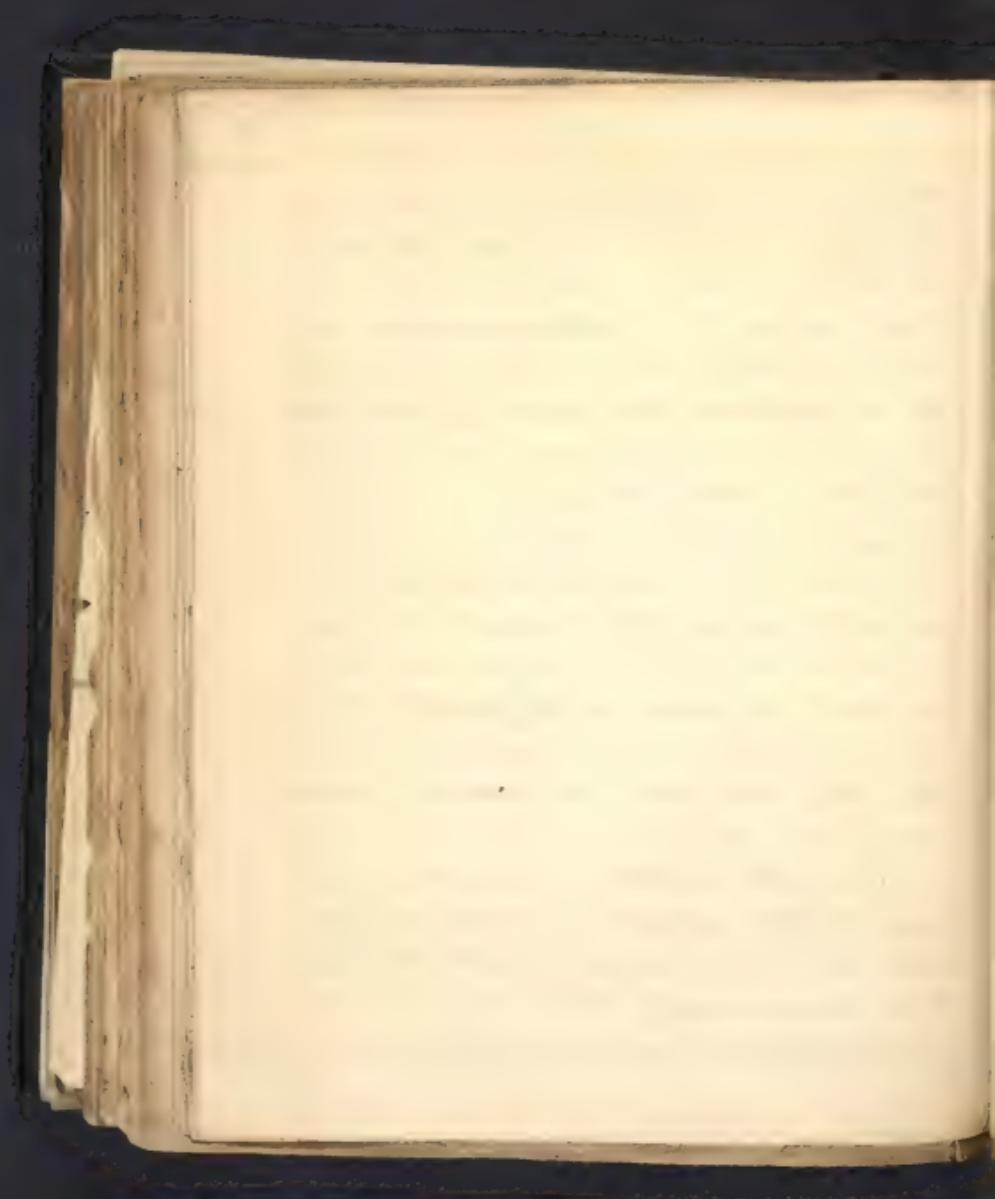
This is one of the most important remedies that can be adopted, and in determining the vital reaction to the skin it may act as a revulsive and thus contribute to relieve the irritation of the Lungs. Extracts of Tarantula or a Mustard cataplasm may also be applied to the throat.

But the disease resists all these remedies, recourse must be had to others and first to Blood-letting. In the epoches of perspiration in all spasmodic and inflammatory diseases, no one at the present day doubts, and in Fisup it is particularly required. In its employment we have no other guide than a subsidence of the distressing symptoms. It is some-

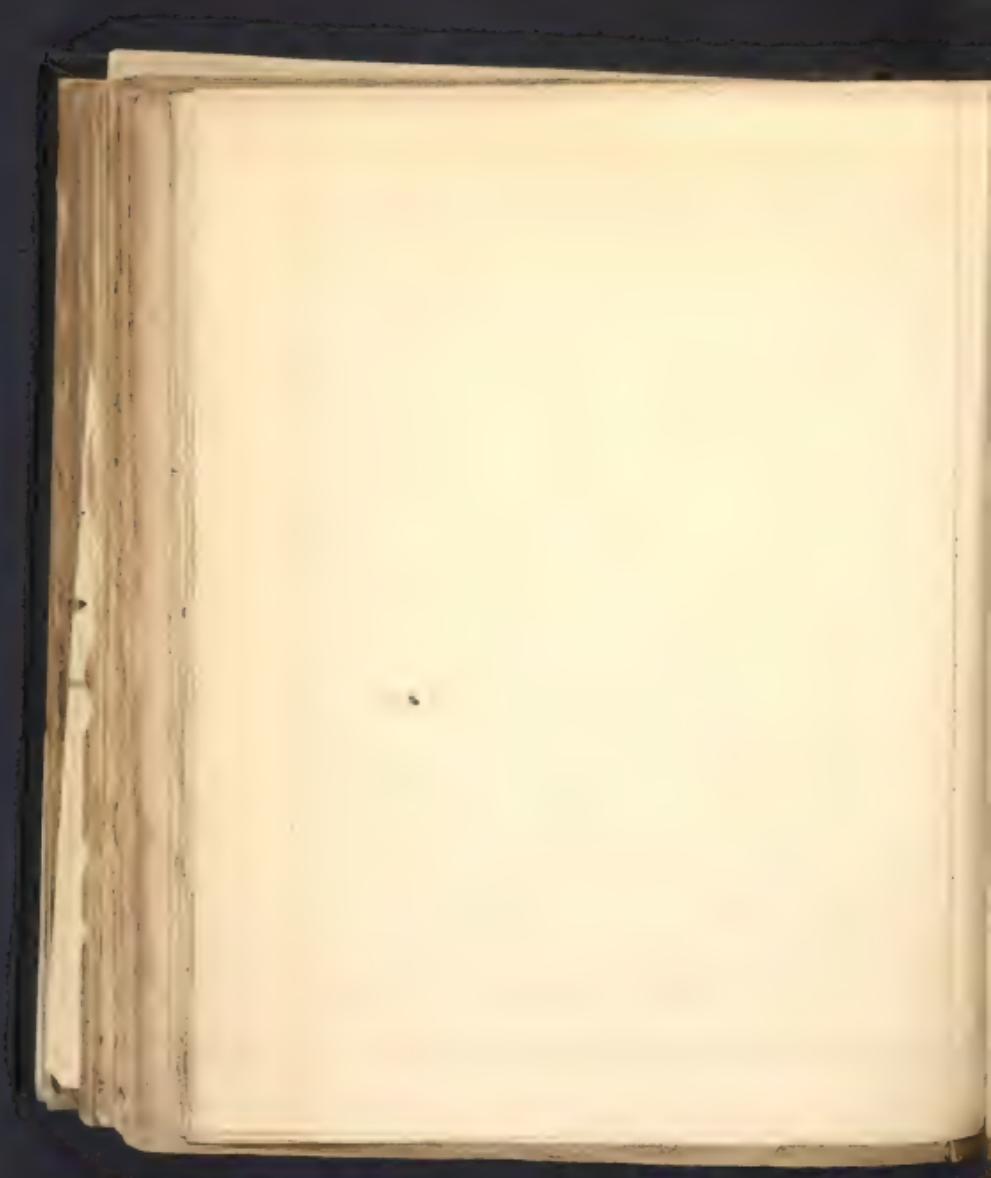


times even necessary to almost drain the system before its full effect is obtained. This is particularly the case when the inflammatory action is established. When Sparring is employed the action is not subdued, but only abated, while at the same time there is an effusion of blood without protracting the patient, and he will not so readily bear the lancet the second time which will sooner or later become necessary. This practice is recommended by nearly all who are conversant with the disease.

After venesection has been carried to the extent I have mentioned and the unpleasant symptoms continuing, there is good rea-

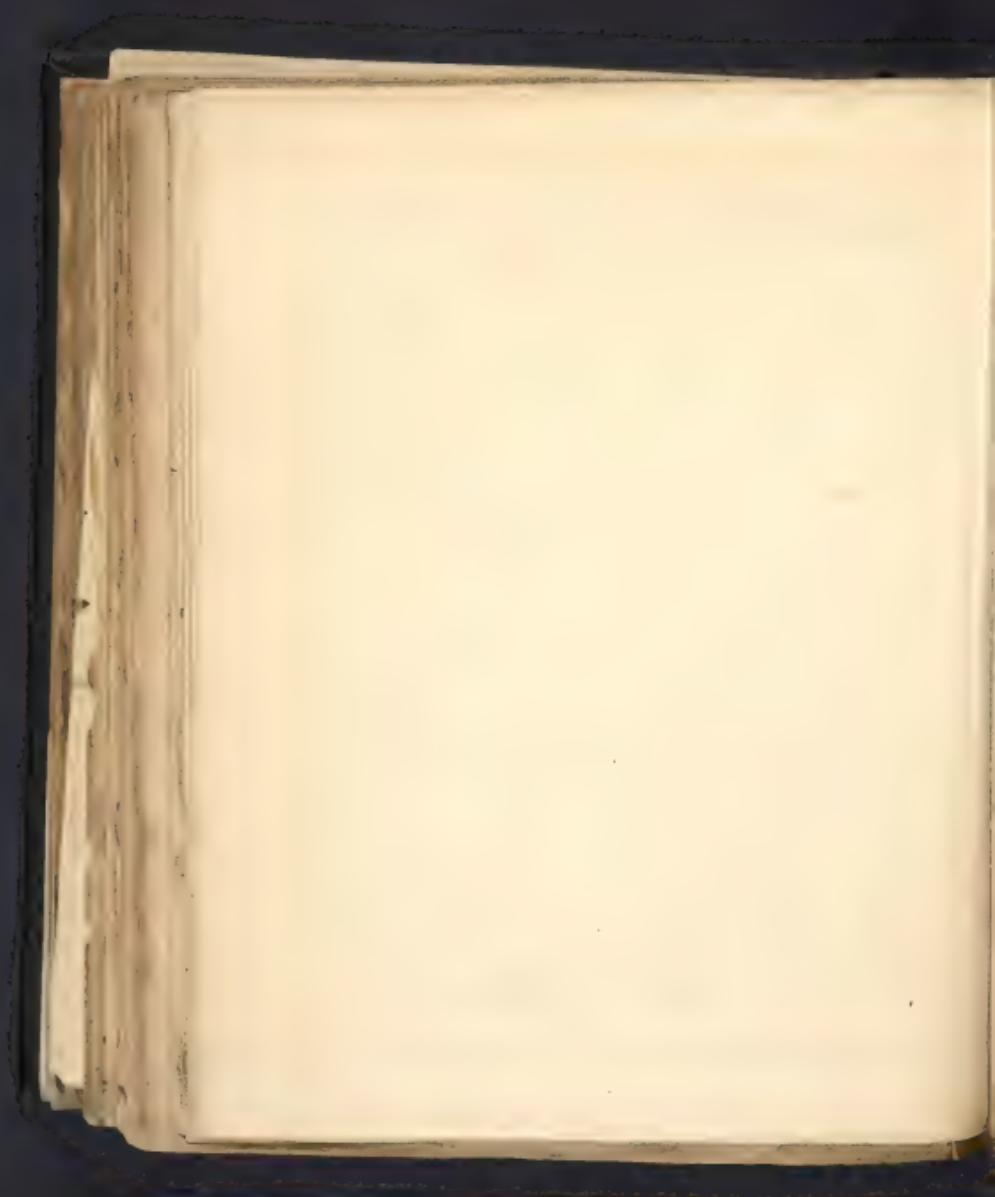


son to believe that the inflammation
action is completely established. Re-
course may then be had to topical
application of cups to the base of
the neck, and leeches to the throat.
In the last of these operations have
been made, but when we consider
this immense utility in alleviating
local inflammation in other parts,
when preceded by copious secre-
tions, I think we are boundly
obliged to abandon their use. They seem
to unload the vessels of the part
of that state of congestion without
which, as has been justly ob-
served, inflammation cannot
take place; they should not
however be used before or as a
substitute for general bleeding
for unless the system be pro-



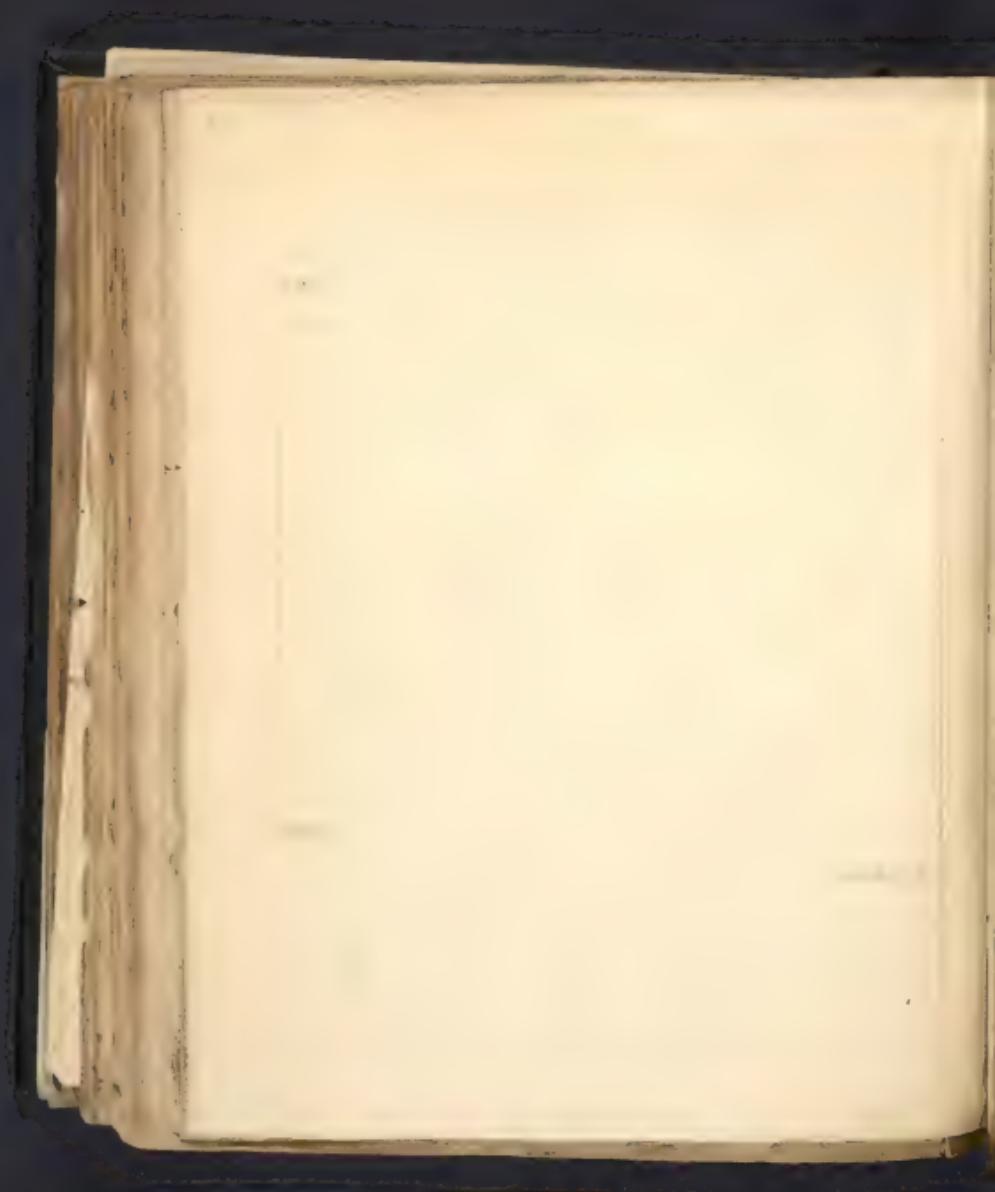
perhaps reduced than might otherwise tend to increase the disease, by inviting a flow of blood to the part, by their irritations. Their want of success, in some cases in which they have been tried, is, perhaps owing to this circumstance. At this ^{con}sumption, the application of a blister might probably prove serviceable.

By the succeeding treatment the violent symptoms of Convulsions are generally subdued, and it is necessary to pay some attention to the state of the bowels. These are generally in a torpid state, and a purgative becomes necessary. Paromel either alone or combined with Rhubarb or Salap may be administered. The importance of



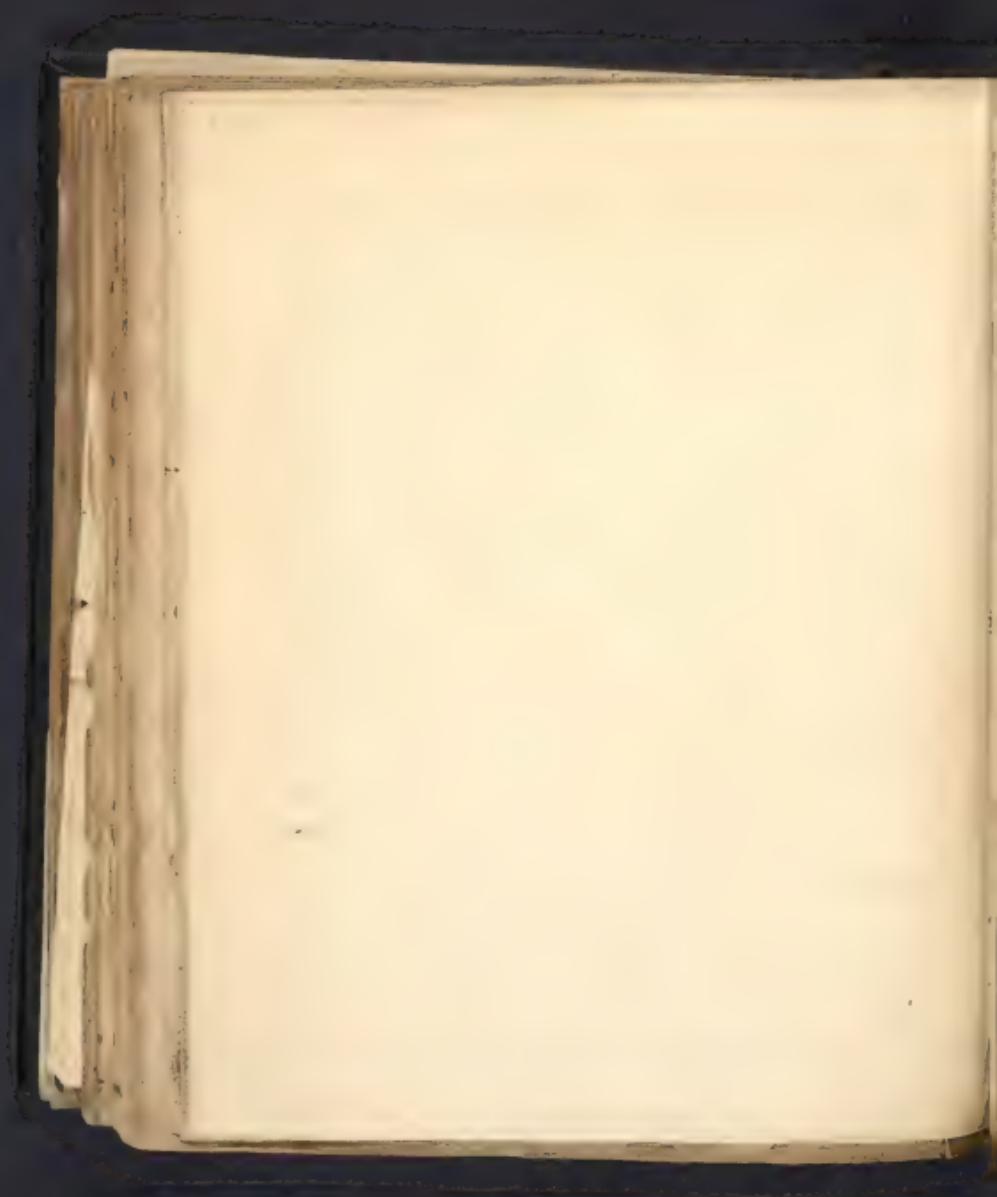
this practice is now great; by it we do away the disposition to inflammation, first by inviting the flow of blood and irritation from the Lungs to the intestinal surface, and secondly by the depletion thus occasion from those parts.

In most cases Cough leaves behind it a slight cough and hoarseness which are best relieved by the use of expectorants. By Dr. Walker of Illawarra the Polypodium amara has been much recommended, but more, I believe, may be expected from this ~~medicine~~ in combination with the Quill and Tartar Practice in the form of the Compound Syrup of Quill & the Suspensives. This



was first introduced by Dr. Bye, and to him we are indebted for the formula. Its value was soon appreciated by other members of the profession, and at the present time it is a very popular remedy in domestic practice, so much so that there are few mothers whose children are affected with this disease, who do not only resort to it to break up the remains of an attack, but often by its timely administration ward off an attack.

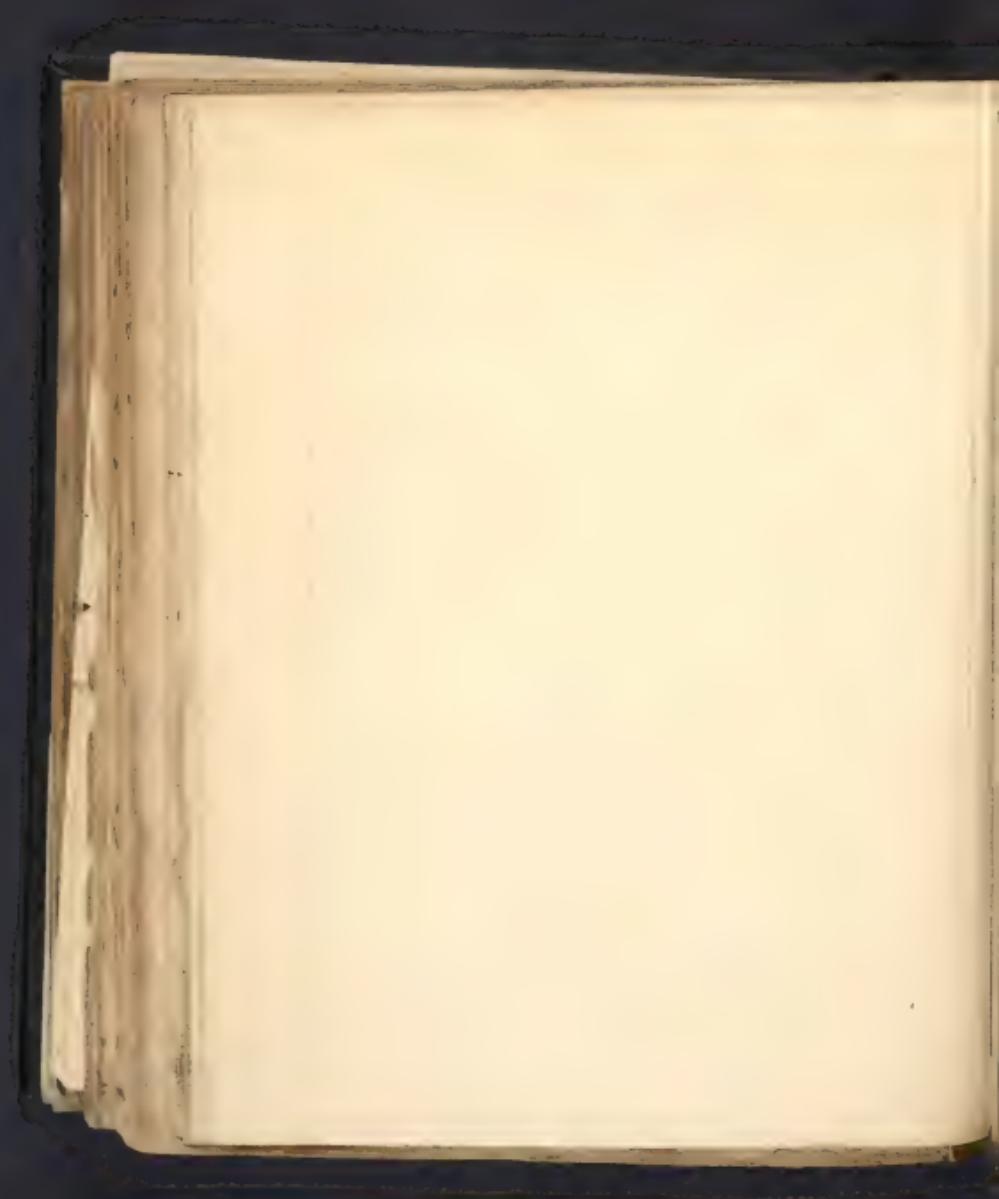
I have now described the treatment of Croup as it usually presents itself but should the inflammation run on to the formation of a membrane we are advised in addition to the usual remedies to sur-



desire to get rid of it; and for
this purpose Emetics have been used.

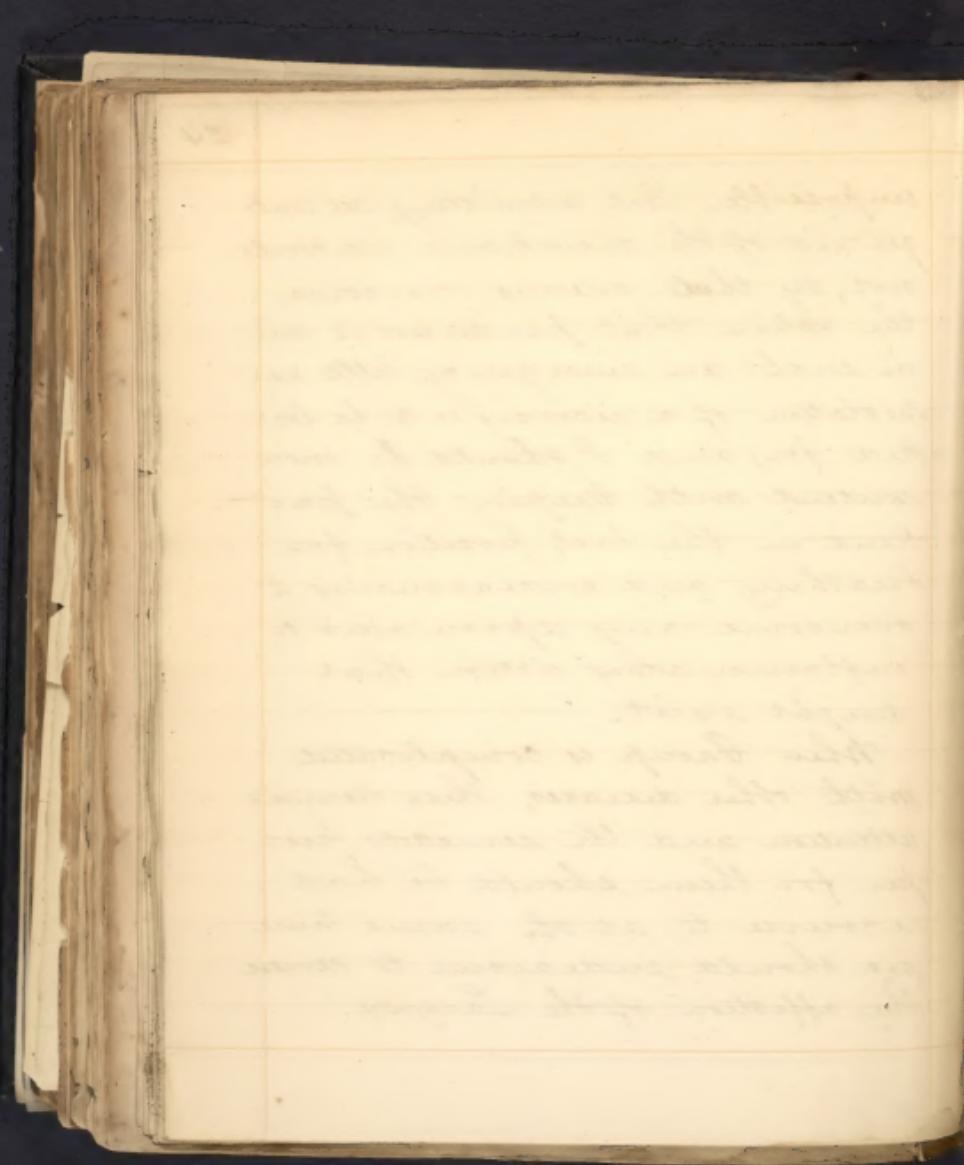
These are, I suppose, very equivo-
cal remedies operating surely
mechanically.

The operation of Tracheotomies
has also been recommended
for its removal. This, though
performed by Dr Physick in se-
veral instances, has never, I be-
lieve, succeeded, except in all
the cases the patients were ra-
pidly sinking. Could we clear
the trachea of any obstruction
that might exist we should
accomplish nothing, as we have
good reason to believe that the
Larynx is covered by a simi-
lar membrane, to remove which,
I am persuaded, would be



impossible. But admitting we could get rid of the membrane we would not, by that means, overcome the action that produced it, and in such an emergency, little expectation of a recovery is to be looked for; and I should be more content with keeping the patient in the best position for breathing, and endeavouring to overcome any spasmodic or inflammatory action that might exist. X

When Croup is complicated with other diseases, these demand attention and the remedies proper for them should be had recourse to, at the same time we should endeavour to remove the affection of the Larynx.



I have now finished an account of my views with respect to the nature of Corp. Though hasty and imperfectly drawn up they have not been adopted without due consideration of the subject. 'Tis from the observations of others I have deduced them consequently they are in a great measure theoretical and I am ready to yield them to the lessons of experience.

